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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/776,982	02/11/2004	David P. Gurney	BCS03463	4523

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EXAMINER	
TAYONG, HELENE E	
ART UNIT	PAPER NUMBER
2611	

NOTIFICATION DATE	DELIVERY MODE
12/10/2008	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

Docketing.US@motorola.com

Office Action Summary	Application No.	Applicant(s)	
	10/776,982	GURNEY ET AL.	
	Examiner	Art Unit	
	HELENE TAYONG	2611	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *10/3/08*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-11,13-22 and 24-27* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3,9-11,13-14, 16-17,20-22, 24-25 and 27* is/are rejected.

7)☒ Claim(s) *4-8,15,18,19 and 26* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *2/11/04* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. This office action is in response to the amendment filed on 10/3/08.

Claims 1-11, 13-22 and 24-27 are pending in this application and have been considered below.

Response to Arguments

2. Applicants arguments regarding the rejection of claims 1-3,16-17 and 20-21 under 35 U.S.C. 103(a) as being unpatentable over Johnson et al (US 5289476) in view of Gibson et al (US 7120333) and claims 9 and 10 under 35 U.S.C. 103(a) as being unpatentable over Johnson et al (US 5289476) in view of Gibson et al (US 7120333) and further in view of Rostany et al (US 5970399) have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1-3, 8-10,16-17 and 20-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Horne et al (US 7133440) in view of Dent (US 20010001008).

(1) with regards to claims 1 and 16;

Horne et al discloses in (fig. 4, 5, 8) a method/system for improving burst acquisition in a digital communication device (see abstract, col. 4, lines 14-22) comprising:

receiving a signal/ tuner (fig. 1, (14), figs. 4, 7, 8, 10); and

performing a sync word search on said signal/demodulator (fig. 1, (14), fig. 7. 8, col. 3, lines 64-65, col. 6, lines 4-29);

Horne et al discloses all of the subject matter discussed above, but for explicitly teaching wherein said sync word search includes performing a hybrid synchronization technique, said hybrid synchronization technique including both a lower order modulation detection and correlation process, and a higher order modulation detection and correlation process.

However, Dent in the same endeavor discloses that the receiver could relatively easily perform sync correlation (channel estimation) using both syncwords, and use that syncword which gives the highest correlations as an indication of whether an 0-16QAM (higher order modulation) or a GMSK (lower order modulation) demodulator will be used for that burst (page 4, [0046]).

It would have been obvious to one of ordinary skill in the art at the time of the invention to have utilized the method as taught by Dent in the method and system of Horne et al to search for syncword for a burst signal synchronization. The benefit would be to compensate for multipath propagation and other causes of ISI.

(2) with regards to claims 2 and 17;

Horne et al further discloses wherein said lower order modulation detection and correlation process comprises performing a biphase shift keying (BPSK) sync word correlation process (col.11, 28-33 and col. 12, line 1).

(3) with regards to claim 3;

Horne et al further discloses wherein said higher order modulation detection and correlation process comprises performing a quadrature phase shift keying (QPSK) sync word correlation process (col.11, 23-27).

(4) with regards to claim 8;

Horne et al discloses all of the subject matter discussed above, but for explicitly teaching performing said lower order modulation detection and correlation process prior to said higher order modulation detection and correlation process.

However, Dent in the same endeavor discloses that the receiver could relatively easily perform sync correlation (channel estimation) using both syncwords, and use that syncword which gives the highest correlations as an indication of whether an 0-16QAM or a GMSK demodulator will be used for that burst (page 4, [0046]).

It would have been obvious to one of ordinary skill in the art at the time of the invention to have utilized the method as taught by Dent in the method and system of Horne et al to perform (GMSK) lower order modulation detection and correlation process prior to said higher order (0-16QAM) modulation detection and correlation

process for a burst signal synchronization. The benefit would be to compensate for multipath propagation and other causes of ISI.

(5) with regards to claims 9 and 20;

Horne et al further discloses performing a squelching function on said received signal prior to said sync word search (col. 6, lines 19-29).

(6) with regards to claims 10 and 21;

Horne et al further discloses wherein said sync word search is not performed until a multi-step burst detection process detects a burst (fig. 8, col. 6, lines 14-29).

5. Claims 11, 13-14, 22, 24-25 and 27 rejected under 35 U.S.C. 103(a) as being unpatentable over Horne et al (US 7133440) in view of Rostany et al (US 5970399).

(1) with regards to claims 11 and 22;

Horne et al discloses in (fig. 4, 5, 8) a method/system for improving burst detection in a digital receiver device (see abstract, col. 4, lines 14-22) comprising:

receiving a signal/tuner (fig. 1, (14), 4, 7, 8, 10); and

performing a multi-step burst detection process on said signal/demodulation (fig. fig. 1, (14) , figs. 7. 8, col. 3, lines 64-65, col. 6, lines 4-29);

wherein the multi-step detection process further comprises:

measuring a signal energy (fig. 7,8, col. 6, lines 4-29);

comparing said signal energy to a designated signal energy threshold value (fig. 7,8, col. 6, lines 4-29);and signaling a valid burst detection if said signal energy exceeds said designated signal energy threshold value for a first predetermined period of time ((fig. 7,8 and col. 6, lines 4-29).

Horne et al discloses all of the subject matter discussed above, but for specifically teaching measuring a signal carrier to noise plus interference ratio (CIR); comparing said CIR measurement to a designated CIR threshold value; and if said signal energy exceeds said designated signal energy threshold value for a first predetermined period of time and said CIR exceeds said designated CIR threshold value for a second predetermined period of time.

However, Rostany et al in the same endeavor (detection) discloses in (figs. 1, (106),(108), 2,(206), (208), fig. 6, step 613-615), measuring energy and a squelching function that compares the energy measurement signals to a predetermine threshold (col. 4, lines 5-53) and in (fig. 5), a two threshold function is used (col. 6, lines 26-45).

It would have been obvious to one of ordinary skill in the art at the time of the invention to have incorporated method as taught by Rostany et al in order to provide an accurate indication of whether noise is present in the channel. The motivation would be to remove interference.

(2) with regards to claims 13 and 25;

Horne et al discloses all of subject matter as described above except for specifically teaching wherein said designated signal energy threshold value comprises a first signal energy threshold that is utilized to detect a presence of said signal if said

signal is currently undetected, and a second signal energy threshold that is utilized to detect the absence of said signal if said signal is currently detected.

However, Rostany et al in the same endeavor (detection) discloses in figs. 1, (108), 2, (208) fig. 6, step 613-615) a squelching function that compares the energy measurement signals to a predetermine threshold (col. 4, lines 5-53) and in (fig. 5) a two threshold function is used (col. 6, lines 26-45).

It would have been obvious to one of ordinary skill in the art at the time of the invention to have incorporated method as taught by Rostany et al in order to provide an accurate indication of whether noise is present in the channel. The motivation would be to remove interference.

(3) with regards to claim 14;

Horne et al discloses all of subject matter as described above except for specifically teaching wherein said designated CIR threshold value comprises a first CIR threshold that is utilized to detect the presence of said signal if said signal is currently undetected, and a second CIR threshold that is utilized to detect the absence of said signal if said signal is currently detected.

However, Rostany et al in the same endeavor (detection) discloses in figs. 1, (108), 2, (208) fig. 6, step 613-615) a squelching function that compares the energy measurement signals to a predetermine threshold (col. 4, lines 5-53) and in (fig. 5) a two threshold function is used (col. 6, lines 26-45).

It would have been obvious to one of ordinary skill in the art at the time of the invention to have incorporated method as taught by Rostany et al in order to provide an

accurate indication of whether noise is present in the channel. The motivation would be to remove interference.

(4) with regards to claim 24;

Horne et al discloses all of subject matter as described above except for specifically teaching wherein said programmable signal energy threshold value comprises a first signal energy threshold that is utilized to detect a presence of said signal if said signal is currently undetected, and a second signal energy threshold that is utilized to detect the absence of said signal if said signal is currently detected.

However, Rostany et al in the same endeavor (detection) discloses in figs. 1, (108), 2, (208) fig. 6, step 613-615) a squelching function that compares the energy measurement signals to a predetermine threshold (col. 4, lines 5-53) and in (fig. 5) a two threshold function is used (col. 6, lines 26-45).

It would have been obvious to one of ordinary skill in the art at the time of the invention to have incorporated method as taught by Rostany et al in a program (DSP processing) in order to provide an accurate indication of whether noise is present in the channel. The motivation would be to remove interference.

(5) with regards to claim 27;

Horne et al further discloses wherein said system comprises a digital receiver (fig. 1, col. 3, lines 35-40)).

Allowable Subject Matter

6. Claims 4-8, 15,18,19 and 26 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The following is a statement of reasons for the indication of allowable subject matter: The prior art of records does not teach using a result of said higher order modulation detection and correlation process to modify a result of said lower order modulation detection and correlation process.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Stewart et al (US 2005/00084040) discloses a method of modulation detection.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to HELENE TAYONG whose telephone number is (571)270-1675. The examiner can normally be reached on Monday-Friday 8:00 am to 5:30 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Liu Shuwang can be reached on 571-272-3036. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Helene Tayong/
Examiner, Art Unit 2611

November 29, 2008
/Shuwang Liu/
Supervisory Patent Examiner, Art Unit 2611